

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JAMES B. POPP and ARTHUR J. BENJAMIN

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Appeal 2008-1128  
Application 09/837,228  
Technology Center 2600

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Decided: April 29, 2008

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Before KENNETH W. HAIRSTON, ROBERT E. NAPPI,  
and KARL EASTHOM, *Administrative Patent Judges*.

NAPPI, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 6(b) of the final  
rejection of claims 1 through 26, 43 through 58, 60, and 61.

We affirm in part the Examiner's rejections of these claims.

INVENTION

The invention is directed to a system to provide indication and  
suppression of a fire in a storage unit for freight, such as for example a  
storage unit on an aircraft. See pages 5 and 6 of Appellants' Specification.  
Claim 1 is representative of the invention and reproduced below:

1. A system for detecting and suppressing a fire condition in a storage unit for storing freight in a storage area containing a plurality of storage units, the system comprising:

    a transmitter associated with each of at least some of the plurality of the storage units and configured to transmit a first signal upon detection of a fire condition in a storage unit experiencing the fire condition;

    at least one receiver configured to detect the first signal and configured to provide a second signal indicating detection of the fire condition in the storage unit experiencing the fire condition; and

    a plurality of fire suppression devices, each of the fire suppression devices being associated with a storage unit and being configured to discharge a fire suppressant material into its associated storage unit upon detection of the fire condition in its associated storage unit,

    wherein detection of the fire condition in any one of the plurality of storage units does not necessarily result in discharging of fire suppressant material into others of the plurality of storage units

#### REFERENCES

Wootton	US 3,848,231	Nov. 12, 1974
Eguchi	US 3,909,814	Sep. 30, 1975
Granek	US 4,058,167	Nov. 15, 1977
Fierbaugh	US 4,987,958	Jan. 29, 1991
Powell	WO 93/12839	Jul. 8, 1993
Ronald	US 5,880,867	Mar. 9, 1999
Sears	US 6,032,745	Mar. 7, 2000

#### REJECTION AT ISSUE

Claims 1 through 8, 18 through 23, 43 through 49, 52 through 55, 60, and 61 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Granek in view of Powell. The Examiner's rejection is on pages 4 through 10 of the Answer.

Claims 9 and 50 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Granek in view of Powell and Eguchi. The Examiner's rejection is on page 10 of the Answer.

Claims 10 through 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Granek in view of Powell, Eguchi and Fierbaugh. The Examiner's rejection is on pages 10 and 11 of the Answer.

Claims 14 through 17 and 51 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Granek in view of Powell and Sears. The Examiner's rejection is on pages 11 through 13 of the Answer.

Claims 24 through 26 and 56 through 58 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Granek in view of Powell and Wootton. The Examiner's rejection is on pages 13 and 14 of the Answer.

Throughout the opinion, we make reference to the Brief (received October 2, 2006), Reply Brief (received January 16, 2007) and the Answer (mailed November 15, 2006) for the respective details thereof.

#### ISSUES

Whether Appellants have shown that the Examiner erred in a) combining Granek and Powell to reject of claims 1 through 26 and 43-58, 60, and 61 under 35 U.S.C. § 103(a); b) determining that the combination of the references teaches storage units as recited in the claims; and c)

combining the infra-red communications teachings of Ronald with Granek and Powell.

## PRINCIPLES OF LAW

Office personnel must rely on Appellants' disclosure to properly determine the meaning of the terms used in the claims. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995). “[I]nterpreting what is *meant* by a word *in* a claim ‘is not to be confused with adding an extraneous limitation appearing in the specification, which is improper.’” (emphasis original) *In re Cruciferous Sprout Litigation*, 301 F.3d 1343, 1348 (Fed. Cir. 2002) (citing *Intervet America Inc v. Kee-Vet Laboratories Inc.*, 887 F.2d 1050, 1053 (Fed. Cir. 1989)).

On the issue of obviousness, the Supreme Court has recently stated that “[t]he obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation.” *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007). Further, the Court stated “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. at 1739 (2007).

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its

actual application is beyond his or her skill. . . . [A] court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

*Id.* at 1740. “One of the ways in which a patent’s subject matter can be proved obvious is by noting that there existed at the time of the invention a known problem for which there was an obvious solution encompassed by the patent’s claims.” *Id.* at 1742.

#### FINDINGS OF FACT

1. Granek teaches a fire suppression apparatus having a conduit formed with continuous compartments for conveying water, fire-extinguishing gas or foam. The conduit has spray nozzles spaced along it which are in communication with one of the compartments. The nozzles are operated by a control system to selectively apply fire suppressant material to an area adjacent the conduit where a fire has been detected. Abstract.
2. Granek’s conduit, as shown in figures 2 and 2a, is segmented to include four compartments to convey fire suppressing material (i.e. four paths).
3. Granek teaches that the conduit is lightweight and normally empty, unlike conventional sprinkler systems. When a fire is detected a control system operates a manifold to apply fire suppressant material to the passage way which leads to the area in which there is a fire. Col. 2, ll. 2-6, col. 4, ll. 17-29.

4. Granek teaches that the fire suppression system may be used in private residential apartments or office premises within a building. Col. 1, ll. 23-26.
5. In Granek's system there is a detector (item 16, Fig. 1) associated with each of the areas which the spray nozzles discharge into. These detectors communicate with the control system via either ultrasonic or radio frequency signals. Col. 4, ll. 62-67.
6. Powell teaches a system for extinguishing and controlling fires in an aircraft. Abstract.
7. Powell's system includes spray lines which connect a source of fire extinguishing material (e.g. Halon, water or grey water). A control system controls valves to apply the fire suppressing material to the appropriate area. Pp. 6-8.
8. Powell's system can be set up to selectively apply fire suppressing material to a part of a cargo hold, or separate cargo holds. This is accomplished by a control system selectively operating control valves to route the fire suppressing material to the proper spray line. Pp. 7-8.
9. Powell teaches that there are different types of detectors used to detect and indicate when a fire is detected. Pp. 7, 11-12.
10. Ronald teaches a communication system which uses infrared (IR) radiation as the communication medium. There are a series of receivers in locations in a building or aircraft which receive IR communication. Abstract.
11. The Ronald system is an alternative to radio frequency (RF) transmission in environments where there is equipment sensitive to

noise from RF transmissions, such as hospitals and aircraft. Col. 1, ll. 21-35

## ANALYSIS

### *Independent claim 1.*

Appellants' arguments have not persuaded us that the Examiner erred in combining Granek and Powell to reject claim 1 under 35 U.S.C. § 103(a). Appellants argue on page 13 of the Brief that "there is no reason [that] someone in Granek's art relating to fire suppression in buildings would look to Powell's system for extinguishing and controlling fires in an aircraft cargo area." Appellants reason that Granek's teaching is limited to a fire protection system for use in buildings and that there is no reason that one skilled in the art would look to using the system in an aircraft such as discussed in Powell. Brief 14, 15, 19 and 20. The Examiner states that using Granek's system in an aircraft cargo storage area is applying Granek to an intended use taught by Powell. We concur with the Examiner's reasoning. We consider Powell to teach that there is a known problem to suppress fires on board aircraft cargo holds, and that the known solution is to selectively apply fire suppressant to the area where the fire is detected using lines and nozzles to deliver the fire suppressant material. Facts 6 and 8. Granek teaches that it is a known problem to have heavy, water filled, fire suppressant lines, and that a solution to this problem is to have an empty conduit which provides several paths for fire suppressing material, and a

control system that selectively applies fire suppressant material to the path which leads to the fire. Facts 1 through 3. That, the two references discuss different types of structure (building vs. aircraft) in which the fire suppression systems are installed, is of no consequence as both systems are achieving the same goal, to apply fire suppressing material to a selected area in which there is a fire. Accordingly, Appellants have not persuaded us that the Examiner erred in combining Granek and Powell.

Appellants' arguments have not persuaded us that the Examiner erred in determining that the combination of the references teaches storage units as recited in the claims. Appellants argue on pages 14 and 15 of the Brief that Granek does not disclose or suggest fire suppressing devices associated with a "storage unit" in a storage area as claimed, rather Granek is concerned with rooms in a building. Appellants argue that the recitation of the "storage unit" is more than an intended use of the fire suppressing system. Appellants state that storage units "for storing freight in a cargo area are typically moved into and out of cargo areas." Brief 16. Appellants argue "[t]he Examiner's assertion about an apartment building being analogous to a cargo area is inaccurate at least because apartment buildings are not intended to transport apartments from one location to another, whereas cargo areas are typically used to transport storage units." Brief 16. On pages 19 and 20 of the Brief, Appellants point out that the Specification provides insight as to how to interpret "storage unit" and "storage area" stating: "examples of 'storage units' and storage areas,' including 'containers,' 'pallets,' 'ULD[s],' 'freight containers,' 'pallets loaded with freight,' and 'cargo area[s].'"

Appellants' arguments have not persuaded us of error in the Examiner's rejection. Claim 1 recites "A system for detecting and suppressing a fire condition in a storage unit for storing freight in a storage area containing a plurality of storage units." Claim 1 further recites that there is a transmitter and fire suppression device associated with the storage unit. Appellants' Specification provides examples of items that are a "storage unit" but provides no definition of the term "storage unit." While many of the items which are exemplary of a storage unit are capable of being used to transport goods, absent a specific definition in the Appellants' Specification, we decline the invitation to import such a meaning into the claim. The Examiner has interpreted the term "storage unit" as "individual units capable of or for storing objects/items." Answer 16. Appellants' arguments have not persuaded us that this definition is unreasonably broad.

The Examiner has found that Granek teaches a fire suppression "system applied to a premise/facility having a plurality of compartments, which inherently have the ability to store objects including freight." Answer 14. We concur with the Examiner and find that Granek teaches that the fire suppression system can be used in a building with multiple rooms. Facts 3 and 4. The term "freight" is a generic term to refer to an item in the context of shipping (i.e. anything can be freight). Clearly Granek contemplates that there are objects in the room from which the fire may emanate. Thus, the room contains items which can be characterized as freight and as such the individual rooms in Granek meet the claimed "storage unit," an individual unit "capable of or storing objects/items." Further, as Granek describes that there are several rooms in the building, the building meets the claimed "storage area containing a plurality of storage units."

We note that even if the term “storage unit” was defined as asserted by the Appellants on page 16 of the Brief, as “for storing freight in a cargo area are typically moved into and out of cargo areas,” the combination of Granek with Powell teaches this limitation. As discussed *supra*, we do not find error in the combination of Granek and Powell. Powell teaches that the aircraft can contain one or more cargo holds, and that the fire suppression system operates in the individual sections or individual cargo holds. Fact 8. Thus, the individual sections or individual cargo holds meet the claimed storage unit, for storing freight in a cargo area are typically moved, and the plane meets the claimed “storage area containing a plurality of storage units.” Accordingly, we are not persuaded that the Examiner erred in determining the combination of the references teaches storage units as recited in the claims.

For the aforementioned reasons, Appellants’ arguments have not persuaded us of error in the Examiner’s rejection of claim 1. Accordingly, we sustain the Examiner’s rejection of claim 1 under 35 U.S.C. § 103(a). Appellants have not provided separate arguments directed to the rejection of the claims dependent upon claim 1 similarly rejected. Accordingly, we sustain the Examiner’s rejection of claims 2 through 8 as being unpatentable over Granek and Powell.

Appellants’ statements on pages 25 and 26 of the Brief directed to claim 9 as being unpatentable over Granek, Powell and Eguchi; claims 10 through 13 over Powell, Granek, Eguchi and Fierbaugh; and claims 14 through 17 over Granek, Powell, and Sears argue that the claims are patentable for the same reasons as independent claim 1. Accordingly, we

similarly sustain the Examiner’s rejections of claims 9 through 17 under 35 U.S.C. § 103(a) for the same reasons as claim 1.

*Independent claim 18.*

Appellants’ arguments have persuaded us that the Examiner erred in combining Granek and Powell to reject claim 18 under 35 U.S.C. § 103(a). Appellants argue on page 21 of the Brief that claim 18 is allowable for the reasons asserted with respect to claim 1. Further, Appellants point out that claim 18 further recites that “the storage units comprising at least one of a container and a pallet …” Additionally, Appellants assert that claim 18 also recites “a transmitter associated with each storage unit and configured to transmit a first signal upon detection of a fire condition, the first signal being infrared signal.” Brief 21. Appellants argue that Granek and Powell do not teach this limitation and there is no motivation to use the infrared (IR) communication as taught by Ronald with Granek and Powell as Ronald is not concerned with a fire suppression system. Brief 22.<sup>1</sup>

Appellants’ arguments have persuaded us of error in the Examiner’s rejection of claim 18. Unlike claim 1, claim 18 further recites that “the storage units comprising at least one of a container and a pallet.” Thus, the

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<sup>1</sup> On page 22 of the Brief, Appellants also assert that the claimed system overcomes a long-felt but unmet need in the art. While we reverse the Examiner’s rejection of claim 18 for other reasons, we note Appellants have presented no evidence to support the assertion that there is a long-felt need for such a system. As such, this bare assertion is insufficient in establishing that secondary considerations overcome the obviousness rejections of the claims.

scope of the term “storage units” is narrower than in claim 1. While we do find that Powell teaches that containers are used, i.e. suitcases in the hold of the aircraft, we do not find that Powell teaches that the suitcases have a transmitter associated with the containers (suitcase) as claimed.

Accordingly, we will not sustain the Examiner’s rejection of independent claim 18 and claims 19 through 23 which are dependent upon claim 18 and similarly rejected under 35 U.S.C. § 103(a). The Examiner has not found, nor do we, that Wootton, the additional reference applied to reject claims 24 through 26, remedies the noted deficiency in the rejection of claim 18.

Accordingly, we similarly reverse the Examiner’s rejection of claims 24 through 26 under 35 U.S.C. § 103(a).

*Independent claim 43.*

Appellants’ arguments have not persuaded us that the Examiner erred in combining Granek and Powell to reject claim 43 under 35 U.S.C. § 103(a). On page 23 of the Brief, Appellants argue that claim 43 recites among other things “a transmitter associated with the storage unit and configured to transmit a first signal upon detection of the fire condition, wherein the first signal is an infrared signal.” Appellants assert that claim 43 is allowable for the reasons asserted with respect to claims 1 and 18. We are not persuaded by these arguments. Initially, we note that unlike claim 18, claim 43 does not recite that “the storage units comprising at least one of a container and a pallet.” Thus, the same claim interpretation and application of art to the limitation of a “storage unit” discussed above with respect to claim 1 applies to claim 43.

We are not persuaded by Appellants' argument that the infrared communication teachings of Ronald are not applicable to Granek and Powell. Granek teaches that the fire detectors transmit to the control system using radio frequency signals. Fact 5. As discussed *supra*, we do not find error in the combination of Granek and Powell. Thus, we consider it to be obvious to use Granek's system on an aircraft as taught by Powell. Further, given that Ronald teaches that IR communication should be used on aircraft instead of RF (fact 11), we consider applying Ronald's system to the combination of Granek and Powell to be nothing more than the combination of known elements to perform their known functions. We do not consider that one skilled in the art would be bound by the type of information to be communicated using Ronald's system (i.e. not consider it applicable because it does not teach communicating information from a fire detector). Accordingly, Appellants' arguments have not persuaded us of error in combining the infra-red communications teachings with Granek and Powell.

For the aforementioned reasons, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claim 43. Accordingly, we sustain the Examiner's rejection of claim 43 under 35 U.S.C. § 103(a). Appellants have not provided separate arguments directed to the rejection of the claims dependent upon claim 43 which are similarly rejected under 35 U.S.C. § 103(a). Accordingly, we sustain the Examiner's rejection of claims 44 through 49 as being unpatentable over Granek and Powell.

Appellants' statements on pages 25 and 26 of the Brief directed to the rejection of claim 50 as being unpatentable over Granek, Powell and Eguchi; and claim 51 over Granek, Powell, and Sears argue that the claims are patentable for the same reasons as independent claim 43. Accordingly, we

similarly sustain the Examiner’s rejections of claims 50 and 51 under 35 U.S.C. § 103(a) for the same reasons as claim 43.

*Independent claim 52.*

Appellants’ arguments have not persuaded us that the Examiner erred in combining Granek and Powell to reject claim 52 under 35 U.S.C. § 103(a). On page 24 of the Brief, Appellants argue that claims 52 recites among other things “a plurality of storage units for storing freight, the storage units being located at predetermined positions in the storage area; and transmitter associated with the storage unit and configured to transmit a first signal upon detection of a fire condition, wherein the first signal is an infrared signal.” Appellants assert that claim 52 is allowable for the reasons asserted with respect to claims 1 and 18.

We are not persuaded by these arguments. Initially, we note that unlike claim 18, claim 52 does not recite that “the storage units comprising at least one of a container and a pallet.” Thus, the same claim interpretation and application of art to the limitation of a “storage unit” discussed above with respect to claims 1 and 43, applies to claim 52. The storage units discussed above with respect to claim 1 are in predetermined positions (i.e. the rooms or cargo holds are in predetermined locations in the building or aircraft). As discussed *supra* with respect to claim 43, we are not persuaded by Appellants’ arguments directed to the use of IR communications. Accordingly, we sustain the Examiner’s rejection of independent claim 52.

and the dependent claims similarly rejected under 35 U.S.C. § 103(a), claims 53 through 55.

Appellants' statements on page 27 of the Brief directed to the rejection of dependent claims 56 through 58 rejected as being unpatentable over Granek in view of Powell and Wootton argue that the claims are patentable for the same reasons as independent claim 52. Accordingly, we similarly sustain the Examiner's rejection of claims 56 through 58 under 35 U.S.C. § 103(a) for the same reasons as claim 52.

*Independent claim 60.*

Appellants' arguments have not persuaded us that the Examiner erred in combining Granek and Powell to reject claim 60 under 35 U.S.C. § 103(a). On page 24 of the Brief, Appellants argue that claim 60 recites among other things "a plurality of fire suppression devices, wherein at least two of the fire suppression devices are associated with different storage units and where the fire suppression devices are configured to discharge a fire suppressant material only into a storage unit experiencing the fire condition." Appellants assert that claim 60 is allowable for the reasons asserted with respect to claims 1 and 18.

We are not persuaded by these arguments. The same claim interpretation and application of art to the limitation of a "storage unit" discussed above with respect to claim 1 applies to claim 60. Granek teaches that the conduit has nozzles in each area and that the fire suppressant material is applied to the individual room. Facts 3 and 4. Powell also

teaches that the fire suppressant is individually applied to the individual cargo holds or sections of the cargo hold, where a fire is detected. Fact 8. Thus, Appellants' arguments have not persuaded us of error in the Examiner's rejection as both references teach only administering fire suppressant material to the area in which there is a fire. Accordingly, we sustain the Examiner's rejection of independent claim 60 and the dependent claim similarly rejected under 35 U.S.C. § 103(a), claim 61.

## CONCLUSION

Appellants' arguments have persuaded us of error in the Examiner's rejection of claims 18 through 26; however, they have not persuaded us of error in the Examiner's rejection of claims 1 through 17 and 43 through 58, 60, and 61.

## ORDER

The decision of the Examiner is affirmed-in-part.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED-IN-PART

tdl/gw

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Appeal 2008-1128  
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